

REMARKS

The foregoing Amendment and remarks which follow are responsive to the Office Action mailed October 5, 2005 in relation to the above-identified patent application. In that Office Action, the Examiner rejected Claims 16, 17, 19-23, 25, 26, 28-32, 34 and 35 under 35 U.S.C. Section 102(e) as being anticipated by the Minamio et al. reference. Additionally, the Examiner rejected Claims 24 under 35 U.S.C. Section 103(a) as being unpatentable over the combination of the Minamio et al and Okumura et al. references.

Summary of Claim Amendments:

By this Amendment, Applicant has amended independent Claims 16, 25 and 31, and has added new Claims 36 and 37 into prosecution. More particularly, independent Claim 16 has been amended to recite that “*the portions of the bottom surfaces of the inner and outer leads of each set which are of the second length and the first length, respectively, are completely exposed in the encapsulation material and arranged to intersect a single straight line extending between the outer leads.*” Similarly, amended independent Claim 31 describes “*the portion of the bottom surface of each of the outer leads of each set which is completely exposed in the encapsulation material being of a first length, the portion of the bottom surface of the inner lead of each set which is completely exposed in the encapsulation material being of a second length which is unequal to the first length, and the exposed portions of the bottom surfaces of the inner and outer leads of each set being arranged to intersect a single straight line extending between the outer leads.*”

Independent Claim 25 has been amended to describe the encapsulation material as “*defining a bottom surface which includes a peripheral edge, the encapsulation material covering the inner lead, the outer leads and the semiconductor chip such that the portions of the bottom surfaces of the inner and outer leads of each set which are of the second length and the first length, respectively, are completely exposed in the encapsulation material and extend to the peripheral edge of the bottom surface.*”

New Claims 36 and 37 are dependent upon Claims 16 and 31, respectively, and each describe the encapsulation material as defining “*a generally planar bottom surface which*

includes a peripheral edge”, and the exposed portions of the bottom surfaces of outer and inner leads of each set as extending “*to the peripheral edge.*”

For the reasons which will be discussed in more detail below, Applicant respectfully submits that the Minamio et al. reference does not teach, suggest or show these particular features of amended independent Claims 16, 25 and 31, or new Claims 36 and 37.

An Overview of the Cited Minamio et al. Reference:

The Minamio et al. reference discloses a semiconductor device which, as best shown in Figures 4-6, comprises a plurality of leads 4, 5, each of which defines a land electrode 16. The leads 4, 5 are covered by a resin encapsulant 15 such that the land electrodes 16 are exposed in a bottom surface of the resin encapsulant 15. As is best shown in Figure 4 of the Minamio et al. reference, the land electrodes 16 defined by the leads 5 are segregated into four sets which extend along and to a respective side of the generally square resin encapsulant 15. The land electrodes 16 defined by the leads 4 are also segregated into four sets which extend along respective sets of the land electrodes 16 defined by the leads 5. However, none of the land electrodes 16 defined by the leads 4 extends to a side of the resin encapsulant 15. Rather, each set of the land electrodes 16 defined by the leads 4 is located between one side of the die pad 1 and the inner ends of the adjacent set of land electrodes 16 defined by the leads 5, such inner ends being those which are disposed closest to the die pad 1. Thus, as is described in the Minamio et al. reference, the bottoms of the leads 4, 5 (i.e., the land electrodes 16) exposed out of the resin encapsulant 15 are arranged in two lines like a “hounds-tooth check” (see column 8, lines 50-53).

Independent Claims 16, 25 and 31 are not Anticipated by the Minamio et al. Reference:

In the cited Minamio et al. reference, within each of the adjacent sets of the land electrodes 16 defined by the leads 4, 5, two of the leads 5 define the outermost pair of land electrodes 16. Applicant respectfully submits that Figure 4 of the Minamio et al. reference clearly shows that the land electrodes 16 of those leads 4, 5 of each of the adjacent sets which extend between the two outer leads 5 defining the outermost pair of land electrodes 16 are **not** each arranged to intersect a single straight line extending between such outer leads 5. Rather, as indicated above, the land electrodes 16 defined by the leads 4 of each of the

adjacent sets are disposed closer to the die pad 1 and inwardly beyond the innermost ends of the corresponding set of land electrodes 16 defined by the leads 5. Thus, even assuming, *arguendo*, that the land electrodes 16 defined by the leads 4 are each of a length differing from the length of each land electrode 16 defined by the leads 5, Applicant respectfully submits that the language of amended independent Claims 16 and 31 is still not satisfied by the Minamio et al. reference since each of the adjacent sets of the land electrodes 16 defined by the leads 4, 5 are not arranged to intersect a single straight line extending between an outer pair of the leads 5 of such adjacent sets.

Further, Applicant respectfully submits that the language of amended independent Claims 25 is not satisfied by the Minamio et al. reference. As also indicated above, *none* of the land electrodes 16 defined by the leads 4 extends to a side of the resin encapsulant 15. Rather, each set of the land electrodes 16 defined by the leads 4 is located between one side of the die pad 1 and the inner ends of the adjacent set of land electrodes 16 defined by the leads 5, such inner ends being those which are disposed closest to the die pad 1

Based on the foregoing, Applicant respectfully submits that independent Claims 16, 25 and 31 are in condition for allowance, as are Claims 17, 19-24, 26, 28-30, 32 and 34-37 as being dependent upon respective allowable base claims. With particular regard to new Claims 36 and 37, since, as indicated above in relation to Claim 25, none of the land electrodes 16 defined by the leads 4 extend to a side of the resin encapsulant 15, Applicant respectfully submits that such new claims are clearly distinguishable over the teachings of the Minamio et al. reference.

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Conclusion:

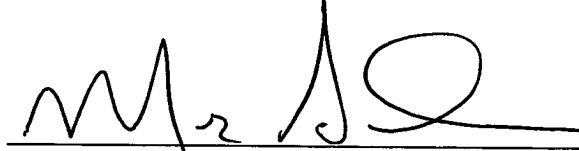
On the basis of the foregoing, Applicant respectfully submits that the stated grounds of rejection have been overcome, and that Claims 16, 17, 19-26, 28-32 and 34-37 are now in condition for allowance. An early Notice of Allowance is therefore respectfully requested.

If any additional fee is required, please charge Deposit Account Number 19-4330.

Respectfully submitted,

Date: 12/27/05

By:



Customer No.: 007663

Mark B. Garred
Registration No. 34,823
STETINA BRUNDA GARRED & BRUCKER
75 Enterprise, Suite 250
Aliso Viejo, California 92656
Telephone: (949) 855-1246
Fax: (949) 855-6371

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